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VIII.—*On the Genus Cercyon, with a short Monographical Synopsis of the British Sphæridiidæ.* By ANDREW MURRAY, W.S. Edinburgh*.

[With a Plate.]

THIS is one of those genera of Coleoptera which have always been a stumbling-block to British entomologists.

The large number of species described by Kirby and Stephens, coupled with the shortness of their descriptions given by Stephens, have led to a confusion which is almost inextricable. With the exception of one or two of the most marked species, scarcely any two collections have the same species under the same name, and in attempting to find representatives for so many, one species is necessarily made to play many parts. After a recent fruitless endeavour to collate and reconcile the British and continental names, I was about to give up the attempt in despair, and to abandon the British names altogether, and confine myself to those of Mulsant, Heer, and other continental authors, when my friend the Rev. William Little kindly submitted the whole of his *Cercyons* to me for examination; and as his species had all been named by Mr. Stephens himself, I had the means (second only to an examination of the original specimens from which the species had been described) of reconciling the synonymy of the British and foreign authors. The distance of my place of residence from London rendered it impossible for me to avail myself with effect of the well-known liberality with which Mr. Stephens gave access to his cabinet; but even although I had had time to examine his specimens minutely, the examination would not have been absolutely satisfactory, because many of the species described by him were first named by Kirby, and the types from which Kirby's species were named are not to be distinguished

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in his collection, which now forms the ornament of the Entomological Society of London. Mr. Little's collection, so far as it goes therefore, has an authenticity on the whole not very greatly behind Mr. Stephens's own. Unfortunately his collection, although large, does not contain specimens named by Stephens of the whole of the species described in his works. Still it contains a considerable portion, having 32 out of 58 species, and it has occurred to me that information even to this extent will be acceptable to many of our entomologists.

On examining Mr. Little's collection, I have identified the following species of Stephens with those of Mulsant, viz. :—

- C. ruficorne*,
littorale,
binotatum,
dilatatum, } *Steph.* = *Cercyon littorale*, *Muls.*
- C. hæmorrhoidale*,
piceum, } *Steph.* = *C. hæmorrhoidale*, *Muls.*
C. hæmorrhoidale, *Steph.*, is represented by specimens of *C. littorale*, but this must be by mistake, as Stephens's description answers better for *C. hæmorrhoidale* than *littorale*.
- C. Boletophagum*,
aquaticum,
flavipes,
immune,
stercorarium,
immaculatum, } *Steph.* = *Megasternum Boletophagum*, *Muls.*
- C. terminatum*,
infuscatum,
apicale, } *Steph.* = *Cercyon anale*, *Muls.*
- C. lævigatum*,
convexior, } *Steph.* = *C. minutum*, *Muls.*
- C. obsoletum*, *Steph.* = *C. obsoletum*, *Muls.*
- C. laterale*, *Steph.* = *C. laterale*, *Muls.*
- C. picinum*,
suturale,
femorale, } *Steph.* = *C. flavipes*, *Muls.*
- C. pygmæum*,
conspurcatum,
stercorator, } *Steph.* = *C. pygmæum*, *Muls.*
 Although Mr. Little's specimen of Stephens's *C. conspurcatum* is *melanocephalum*, it has been ascertained by Mulsant from other sources to be *pygmæum*.
- C. melanocephalum*, *Steph.* = *C. melanocephalum*, *Muls.*
- C. atomarium*,
sordidum,
merdarium, } *Steph.* = *Cryptopleurum atomarium*, *Muls.*
- C. ustulatum*,
bimaculatum, } *Steph.* = *C. centrimaculatum*, *Muls.*
- C. quisquilius*, *Steph.* = *C. unipunctatum*, *Linn.* ♀.

The above information clears up the synonymy of the genus to a certain extent, and by examining Stephens's descriptions, aided by the light derived from a comparison of the above species which have been identified, with *their* descriptions, and by an examination of other cabinets in which I have found what have been supposed by others to be the species corresponding to Stephens's names, I shall venture to give a list of our British Sphæridiidæ with a more extended synonymy—the rather, that as I have explained my sources of information, no one can be deceived into attaching more weight to my opinion than it is justly entitled to. I adopt the arrangement and characters of Mulsant, and I dare say it will be acceptable to our younger entomologists, if I digest it into the shape of a short monograph, noticing briefly those distinctive characters which can be readily seized, but referring them to Mulsant and other authors for full and extended descriptions.

Mulsant divides the Palpicornes of France into two groups, the HYDROPHILIDÆ and GEOPHILIDÆ, which are distinguished from each other by the former having the first article of the posterior tarsi always shorter than the second, while the latter has it always longer than the second.

The group HYDROPHILIDÆ is composed of the genera *Spercheus*, *Helophorus*, *Hydrochus*, *Octhebius*, *Hydræna*, *Limnebius*, *Berosus*, *Hydrophilus*, *Hydrous*, *Hydrobius*, *Laccobius*, *Helophilus*, *Philhydrus*, and *Cyllidium*.

The group GEOPHILIDÆ, with which we have to do, is composed of the genera *Cyclonotum*, *Sphæridium*, *Cercyon*, *Pelosoma*, *Megasternum*, and *Cryptopleurum*.

He separates the four first genera of this second group into one division, "*Sphæridiæres*," distinguished by having the mesosternum much longer than broad, and compressed into a kind of blade. The two last form another division, "*Megasternæres*," which has the mesosternum not longer than broad, and of an irregular pentagonal form.

The mesosternum also furnishes characters sufficient to distinguish the four genera of *Sphæridiæres* from each other, viz. :—

Cyclonotum. Has the mesosternum terminated in front by an arrow-head shape; scutellum almost an equilateral triangle.

Sphæridium. Mesosternum compressed into a blade of equal thickness, not terminated in an arrow-head; scutellum twice as long as broad.

Cercyon. Mesosternum sublinear, sharpened both before and behind; scutellum subequilateral, or not more than a half longer than broad.

Pelosoma. Mesosternum linear, but sharpened before and truncate behind.

For the more easy understanding these distinctions I annex a Plate (Pl. IV.), showing the under side of the different genera composing the *Geophilidæ*, copied from Mulsant's figures in the 'Palpicornes de France.'

CYCLONOTUM, Dej., Erich.

Hydrophilus, Fab., Herbst, Marsh., Steph.

Cælostoma, Brullé, De Casteln.

C. orbiculare, Fab., Erich., Heer, Steph., &c.

Subhemispheric, above brilliant black, closely covered with punctures, which are smaller on the head and thorax than on the elytra. The elytra have a single stria next the suture shortened anteriorly; under side of body, thighs and legs of a brown black, tarsi livid testaceous.

Var. B. *C. Allabroix*, De Casteln. Upper side of body brown-black, and gradually brownish yellow on the margins of the prothorax and elytra.

Length $1\frac{1}{2}$ to $2\frac{1}{2}$ lines; breadth 1 to 2 lines.

In general appearance this species approaches nearest to the *Hydrobii*; like the most of them it is densely punctured all over, and has a single sutural stria, but is at once distinguished from them by the first article of the posterior tarsi being longer than the second, which, as already mentioned, is the character which separates this group from the *Hydrophilidæ*. It has also some resemblance to the *Cercyons*, more particularly *C. obsoletum*, Muls., which is about the same size, but is easily recognized by its having no striæ on the elytra except the sutural, while all the *Cercyons* are marked with ten or eleven striæ.

It is a water insect, and is found in stagnant water or under the debris on the margins of lakes and ponds. Found both in England and Scotland, but not very common.

SPHÆRIDIDIUM, Fab.

Dermestes, Schrank, Fourc., Marsh.

Sph. scarabæoides, Linn., Fab.

4-maculatus, Schrank.

Body above of a shining black, densely punctured; prothorax a fifth or a fourth longer in its middle than at the sides; elytra with a red mark behind the shoulder, and a semicircular reddish yellow blotch at the apex; under side of body and of legs nut-brown.

The ♂ is distinguished from the ♀ by having the last article of

the fore tarsi swollen, and one of the nails of the same feet very thick and strongly curved, while in the ♀ these parts are in a normal state.

Var. B. Prothorax with a red or yellowish red margin, sometimes shortened.

Var. C. *Sph. lunatum*, Fab.
bipustulatum, Herbst.
scarabæoides, Illig.

Elytra without a spot behind the shoulder.

Var. D. Legs spotted with yellowish red.

Length $2\frac{1}{2}$ to 3 lines; breadth $1\frac{2}{3}$ to 2 lines.

Common both in Scotland and England in cow-dung, &c.

Sph. bipustulatum, Fab.

Body above shining black, densely punctured; prothorax a third longer in the middle than on the sides, margined on the sides with yellowish red, with the hinder angles curved backwards almost in the form of a tooth; elytra with a lateral border and an apical blotch almost semicircular, both of yellowish red; under side of body brownish black; legs generally of reddish yellow with a black blotch on the middle of the thighs.

♂ and ♀ distinguished by the same characters as the preceding species.

Var. B. *Sph. bipustulatum*, Fab.
hæmorrhous, Schrank.
testudinarius, Fourc.
marginatum, Scriba, Payk., Lat., Gyll., &c.
scarabæoides, Laich., Illig.
semistriatum, De Casteln.

Elytra with a semicircular blotch towards the extremity from the suture almost to the outer edge; *a.* sometimes dilated to the apical margin; *β.* at other times reduced to a punctiform blotch near the suture; *γ.* prothorax and elytra, sometimes the one and sometimes the other, without a red border on the edges; *δ.* elytra generally marked with rows of punctures in striæ more or less distinct.

Var. C. *Sph. 4-maculatum*, Curtis, Marsh.
marginatum, Gyll., var. *c.*; Zetterst. var. *c.*; Heer,
 var. *d.*
bipustulatum, Steph. syn.

Similar to the preceding type. Elytra marked besides with a subhumeral red blotch, reduced sometimes to a sort of reddish transparency.

Var. D. *Sph. scarabæoides*, Sturm.

Elytra marked with a subhumeral red blotch more or less decided, without any blotch at the extremity; β . as in the type; γ . elytra sometimes marked with striated rows of punctures.

Var. E. *Sph. marginatum*, Fab., Payk., Gyll., Curtis, Steph.

syn. &c.

scarabæoides, Illig. var. β .; Sturm, var. *e.* & *g.*;

Schön. var. γ .; Lat. var. D.

4-maculatum, Steph.

Daltoni, Steph.

Upper side of body entirely black, with the outer edge of the prothorax and elytra red or yellowish red; β . prothorax or elytra, sometimes one and sometimes the other, without a red border on the sides; δ . elytra offering rarely slight traces of striated rows of punctures.

Length $1\frac{3}{4}$ to $2\frac{1}{2}$ lines; breadth $1\frac{1}{4}$ to $1\frac{3}{4}$ line.

This species varies much in colour. Commonly it is entirely black above, with the exception of the yellowish border. The variations offer all the gradations between the varieties cited above.

It differs from the preceding species in its smaller size, in its prothorax being more sinuous at its base, and more sensibly curved behind at its posterior angles. The black blotch on the middle of the thigh, though not always to be trusted to, generally gives a ready indication of the species.

Heer describes two species of *Sphæridium* as being found very rarely in Switzerland; one, *S. striolatum*, Heer, distinguished from *scarabæoides* by its more convex form and the punctuation of the elytra being a little deeper, and the elytra striolated along the suture at the scutellum; and the other, *S. testaceum*, Heer, distinguished from *marginatum* by being wholly testaceous and smaller and more finely punctate. I am inclined to doubt if either of these is a good species.

CERCYON, Leach.

Sphæridium, Gyll., Oliv., Payk.

Dermestes, Marsh.

Hydrophilus, Fab.

Div. I. Mesosternal plate visibly detached at its posterior extremity from the metasternum.

A. Intervals between the striæ on the elytra visibly punctate.

C. obsoletum, Gyll., Steph., Muls.

lugubre, Oliv., Lat., Marsh. (not Erich., Heer, Muls.).

atomarium, Payk. (not Steph.).

Oval, narrower behind. Upper side of body finely punctate. Head and prothorax shining black; the latter scarcely shorter in the middle than at the sides. Elytra black with the extremity gradually reddish, with light striæ marked with cycloid punctures; the fourth stria almost angular at the fourth part of its length, and rendering the fifth interval gradually broader from this point to the base.

Length $1\frac{1}{2}$ to $1\frac{3}{4}$ line; breadth 1 to $1\frac{1}{2}$ line.

This species is readily distinguished from all the others by its greater size, being the largest of the genus, and by the fourth stria on the elytra making an almost angular bend towards the suture at a short distance from the base, thus gradually increasing the breadth of the fifth interval at the base. The extent of the paler reddish tint at the apex varies, and it may be as well to mention here, that in this genus (indeed in the whole group) colour is very little to be depended on. The whole genus has a disposition to be paler at the apex than on the rest of the body, but several of the species vary from dark black to pale testaceous. The colouring matter appears to have circulated from the head or middle of the prothorax to the extremity, and to have reached different lengths in different individuals, one having the paleness of the apex almost extinguished, while another has a pale blotch extending halfway up the elytra, or even over the whole body.

This, as well as all the other species of the genus, feeds on the dung of herbivorous animals, or, as Mulsant more elegantly expresses it, "on vegetable matter which has been animalized by passing through the digestive tube of certain mammiferæ." The species is not rare in Britain, but is by no means so plentiful as some of the following.

C. hæmorrhoidale, Fab., Steph., Muls.
melanocephalum, var. β . Illig.
obsoletum, De Castel.

Body short, oval, narrower behind, finely punctate above. Head and prothorax shining black, the latter a fourth shorter on the sides than in the middle, marked with a depression before the scutellum. Elytra moderately convex on the back, convexly subperpendicular on the sides; black at the base, gradually becoming reddish brown or brown at the extremity, with striæ edged each by a row of cycloid punctures; the fourth not angular.

Var. B. *C. piceum*, Marsh., Steph.

Elytra entirely of a reddish brown, gradually paler towards the extremity.

Var. C. *C. impressum*, Sturm, Steph.

Black, with the elytra red except a triangular black patch at the middle of the base of the elytra surrounding the scutellum, and the margins of the base of the elytra also black extending to the triangular patch.

Length $1\frac{1}{4}$ to $1\frac{1}{2}$ line; breadth $\frac{7}{8}$ to 1 line.

This species is easily recognized by the dimple on the thorax immediately in front of the scutellum, and by its hump-shouldered appearance. The variety *impressum* is coloured like *melanocephalum*, but is known by the above characters. Not rare.

C. hæmorrhoum, Gyll., Steph., Muls.

hæmorrhoidale, Fab.

melanocephalum, var. β . Illig.

xanthorrhœum, Leach, Steph.

Oval, less rounded posteriorly, densely marked with small punctures above. Head and prothorax brilliant black; prothorax sensibly longer in the middle than on the sides, and more elevated a little in front than at the base. Elytra subconvex on the back, convexly subperpendicular on the sides; black, passing rather abruptly to red in the posterior third part, with the suture black; with very marked striæ, the dorsal ones less distinctly punctate.

Length 1 to $1\frac{2}{3}$ line; breadth $\frac{7}{8}$ to 1 line.

This species is not so easily recognized at first sight as the last, but it also has a distinctive mark which fixes it. On looking at the insect sideways, its thorax is seen to differ in shape from all the others. In them the thorax gradually rises from the head until it meets the elytra, which join it without disturbing the general curve of the body. Seen sideways the whole body looks like the segment of a circle. In *hæmorrhoum* this is not the case; the thorax rises from the head in a curve, but before reaching the elytra it falls again, and the elytra commence their rise from the thorax, so that the profile is that of two segments of a circle meeting at the base of the thorax. The suture also is dark at the apex, while in most other pale-tailed species it is concolorous.

Rare. I have taken one specimen in Scotland.

C. laterale, Steph., Muls.

Shortly oval or suboviform; moderately convex and thickly marked with small punctures above. Head and prothorax black; prothorax reddish brown on the sides. Elytra becoming narrower from a third of their length; of a red-brown paler towards the extremity; with eleven narrow striæ, marked with round

punctures scarcely larger than them; dorsal intervals less deepened towards their posterior two-thirds.

Length 1 to $1\frac{1}{2}$ line; breadth $\frac{2}{3}$ to 1 line.

This is a large species, next in size to *C. obsoletum*, Muls., and of a somewhat globular shape. The elytra are of a chestnut-brown colour, with a dark or black transverse line along the base. It is to be distinguished at this point from *flavipes*, Muls., which has also a dark impression running along the base, but *flavipes* has another dark impression running down the suture, only reaching about halfway down, and leaving the suture pale at the patch at the apex, while *laterale* has no black on the suture at the base, but has it darker than the surrounding parts at the apex. It is to be distinguished from *C. obsoletum* by its fourth stria less angular, from *hæmorrhoidale* by its thorax without a depression in front of the scutellum, and from *hæmorrhoum* by the form of the thorax.

Occasional both in Scotland and England.

- C. unipunctatum*, Linn., Fab., Muls., &c. Erich. ♀, Heer ♀.
cordiger, Fuessly, Herbst.
dispar, Payk. ♀.
quisquiliium, Steph. ♀.

Oval, rounded in front. Head and prothorax densely punctate, shining black; prothorax edged on the sides with yellow. Elytra yellow or reddish yellow, with the suture black, and upon it a black blotch common to each elytron, with ten striæ; the dorsal striæ less distinctly punctured in the middle; the lateral striæ reduced to striated rows of punctures. The legs and sometimes a part of the belly of reddish yellow.

Var. B. Black mark on the elytra very much reduced, or very pale, sometimes almost wanting.

Length 1 to $1\frac{2}{3}$ line.

This species cannot be mistaken for any other. Its head and thorax black, and its elytra yellow, with a large heart-shaped black patch on the middle of the suture extending over both elytra, sufficiently distinguish it.

Common.

- C. quisquiliium*, Linn., Steph. ♂, Erich. ♂, Heer ♂, Muls.
minimus, Scop.?
xanthopterum, Laich., Schrank.
unipunctatum, Fab., Illig. ♂, Sturm ♂.
melanocephalum, var. Herbst.
dispar, Payk. ♂.

Oval oblong, more rounded in front. Head and prothorax brilliant black, densely marked with small punctures. Elytra

straw-yellow, reddish at the suture, obscure or blackish towards the sutural angle, with ten punctured striæ; the lateral striæ reduced to striated rows of punctures. Legs testaceous yellow.

Var. B. *C. flavum*, Steph. syn.

Prothorax with a narrow yellow border on the sides.

Var. C. *C. scutellare*, Steph. syn.

Elytra appearing marked with a black triangular blotch surrounding the scutellum.

Length $\frac{5}{4}$ to 1 line.

This species in outline and general appearance greatly resembles the preceding, but wants the heart-shaped black patch on the back: it has been generally supposed to be its male. Mulsant, however, states that individuals of both sexes are found with the characteristic mark of each, and that therefore the one cannot be the male of the other. A positive statement of this kind coming from one who has studied the genus so much as Mulsant, drives us either to admit them to be different species or varieties of the same species. I confess that, although in deference to Mulsant's authority I have here kept them apart as different species, my own opinion is that they are connected together in some way or other, if not as sexes at least as varieties. Whenever a few specimens of one are taken, some of the other are sure to be taken along with them.

Common.

C. centrimaculatum, Sturm, Erich., Muls.

pygmæum, Gyll. (not Illig., Steph., Muls.).

bimaculatum, Steph.

ustulatum, Kirby, Steph.

inustum, Marsh., Steph.

nubilipenne, Steph.

Oval, moderately convex and somewhat depressed, shining and finely punctured above. Head and prothorax black; the latter reddish on the sides, rounded at the posterior angles, with the edges turned up on one part of the base. Elytra testaceous red, with a blackish mark or cloud on the disk of each, with the striæ punctate; second, third and fourth intervals subconvex, and as narrow at their extremity as the sutural one.

Var. B. Elytra entirely testaceous red, or testaceous yellow.

Length $\frac{1}{2}$ to $\frac{2}{3}$ line.

Its small size and yellow elytra, with a dark cloud on the disk of each, generally enable us to distinguish this species at first sight. It has sometimes the elytra coloured like *quisquilius*, but its small size, more depressed form and the other characters above mentioned distinguish it.

Common.

- C. pygmæum*, Illig., Steph., Muls.
stercorator, Steph.
ferrugineum, Herbst (not Steph.).
 Var. *conspurcatum*, Sturm, Steph.
 Var. *merdarium*, Sturm (not Steph.).
scutellare, Steph. ?
plagiatum, Erich. ?

Oblong, oval, rather convex, shining and finely punctate above. Head and prothorax black, the latter arched laterally with posterior angles prominent; the edges not turned up at the base. Elytra somewhat rugulose anteriorly, black, with more or less of the sides and apex of a livid red colour, with punctate striæ second, third and fourth intervals depressed, and sensibly broader at their posterior part than the sutural one.

Var. A. Elytra entirely black except the extremity, which is reddish.

Length $\frac{1}{2}$ to $\frac{5}{4}$ of a line.

This species is about the same size as the last, and when they are both in their normal state of colour is easily distinguished from it by the colour, the elytra of this never being yellow with a black patch on the disk. Its general form also distinguishes it; it is a deeper and narrower insect, wants the turned-up edge at the base of the prothorax, and the second, third and fourth intervals between the striæ are wide posteriorly. The variety *conspurcatum*, Steph., has the elytra testaceous with a triangular black patch at the base like *melanocephalum*.

Common.

- C. littorale*, Gyll., Steph., Muls.
ruficorne, Kirby, Steph.
binotatum, Steph.
dilatatum, Steph.

Oval, feebly convex, black or brownish black above, and densely marked with small punctures. Epistome of the form of a parallelogram, somewhat cut out in front. Prothorax as short in the middle as on the sides. Elytra broadest in the middle, with eleven punctate striæ gradually deepening posteriorly. Intervals subconvex at the extremity.

Var. B. Elytra bordered on the sides with yellowish red for half their length, and with a patch of the same colour at the apex; α . prothorax entirely black; β . prothorax bordered with red on the edge.

Var. C. Like the preceding; but elytra also with a reddish yellow patch at the base, sometimes extended so much as to

leave only a black spot on the disk, at other times reduced to a sort of reddish point. Prothorax, α . entirely black; β . bordered with red; γ . entirely of a reddish brown or testaceous red.

Var. D. Head brown. Prothorax black or reddish brown. Elytra entirely testaceous red.

Var. E. Elytra very much dilated.

Length 1 to $1\frac{1}{2}$ line; breadth $\frac{2}{3}$ to 1 line.

This species, although variable, is in general easily distinguished. Its oblong depressed form of body, with striæ very slight at the base of the elytra deepening gradually into deep sulci towards the apex, are peculiar to itself.

Common on the sea-shores under marine rejectamenta.

C. aquaticum, Steph., Muls.

Oval, at least as broadly rounded in the last fourth as in the first, moderately convex and densely marked with small punctures above. Head and prothorax black, the latter bordered with red on the sides; sutural angle of elytra at the apex straight, with eleven narrow striæ marked with round punctures scarcely broader than the striæ; black, with the extremity and a lateral border yellowish red. Mesosternal plate somewhat ovular.

Var. B. The reddish brown or testaceous red margin of the sides of the prothorax reduced to a punctiform patch, more or less apparent near the anterior angles.

Length 1 to $1\frac{1}{2}$ line; breadth $\frac{2}{3}$ to 1 line.

This has much analogy with the following species. The characters which distinguish it are these:—It wants the prolongation at the apex of the elytra, of which I shall presently speak, has the margin of the thorax pale instead of black, wants the black base and suture of the elytra, has the mesosternal plate of an ovular form instead of a linear form, and is altogether of a more oval shape.

C. flavipes, Fab., Steph., Muls.

hæmorrhoidale, Sturm.

melanocephalum, Gyll.

suturale, Steph.

femorale, Steph.

picinum, Steph.

Oblong oval, less broadly rounded in the last half than in the first, moderately convex and densely marked with small punctures above. Head and prothorax black. Elytra below prolonged

in the form of a beak at the sutural angle at the apex, anteriorly of a reddish brown, marked with a black line along and a black line down the suture for a third of its length, assuming the appearance of a black **T**; brown in their middle, with the posterior part and external margin of a livid testaceous red. Mesosternal plate linear.

- . Var. B. Elytra nut-brown or black-brown, with the black line on the base and suture not distinguishable.

Length $1\frac{1}{8}$ to $1\frac{1}{2}$ line; breadth $\frac{7}{8}$ to 1 line.

This species generally figures in British collections as *C. suturale*. I do not think Stephens knew what the true *flavipes* was. His species under that name, as I have already shown, was *Megasternum Boletophagum*. The black marks at the base of the elytra and down the suture forming a black **T** readily distinguish it when these marks are decidedly present; they are, however, sometimes not observable, when the form of the elytra and of the mesosternal plate, coupled with the prolongation at the apex of the elytra, will distinguish it. The elytra are less rounded behind than the preceding species, and the mesosternal plate linear. The prolongation at the apex of the elytra is sometimes very distinct, so much so as almost to take the form of a beak, as if some one had taken the apex of the elytra when soft close to the suture and given it a pinch with their nails, but generally it has more the appearance of a small indentation.

Common.

C. melanocephalum, Linn., Steph., Muls.

Oval oblong, less rounded posteriorly, convex, shining, and finely punctate above. Head and prothorax black. Elytra often slightly prolonged like an obtuse beak at the sutural angle at the apex, testaceous red, paler towards the apex, with a triangular patch upon and around the scutellum, and the base of the external margin black with slight striæ, often little visibly punctate on the back.

Length 1 to $1\frac{1}{3}$ line; breadth $\frac{2}{3}$ to $\frac{7}{8}$ line.

This is a common species, whose colour is pretty constant, and is easily known by its red elytra with a black triangular scutellar patch. The var. *impressum* of *hæmorrhoidale* and the var. *conspurcatum* of *pygmæum* both have a similar triangular patch, but the former is so much larger and the latter so much smaller than this, as at once to suggest a query as to their species, when their other characters will prevent their being confounded.

Very common.

Mulsant notices another species, *C. erythropterum*, which

should come between *C. flavipes* and *C. melanocephalum*. It has the head and prothorax black, the elytra red, paler at the extremity, furnished with a kind of black **T** covering the internal half of the base and a third of the suture. It is more oviform and more regularly convex than *C. flavipes*, and its elytra are not obscure in the middle. It is a Sicilian species and not likely to be found in this country.

B. Intervals of the elytra appearing smooth.

Obs. These intervals when examined by a strong lens are found to be absolutely covered with confluent punctures, and have a silky appearance.

C. minutum, Fab., Steph., Muls.
triste, Illig. (not Gyll.).
laevigatum, Kirby, Steph.
convexior, Marsh., Steph.
convexius, Kirby, Steph.
convexiusculum, Marsh., Steph.

Oviform, convex, chestnut-black or black above. Head and prothorax finely punctate. Elytra passing to brownish red at the extremity; striæ punctate, slight and less distinct posteriorly; intervals appearing smooth and silky. Mesosternal blade ovular. Length $\frac{3}{4}$ to 1 line.

This is easily distinguished from the rest by the elytra, which have a dull, opake, silky or greasy appearance, and have the intervals apparently impunctate. *C. lugubre* is the only other which has elytra with the intervals impunctate; but *C. minutum* is less convex than it, and has a less decided patch of red at the apex; besides, the striæ disappear before the apex, which in *lugubre* they do not.

Occasional.

C. lugubre, Payk., Erich., Heer.

Oviform, very convex and shining black above. Head and prothorax finely punctate. Elytra testaceous red towards the extremity, with eleven narrow striæ slightly punctate and a little deeper behind. Mesosternal blade oval, twice as long as broad.

Length $\frac{5}{8}$ to $\frac{7}{8}$ of a line.

I cannot say whether this species is found in Britain or not. I have seen no specimen of it, but Stephens records the species as found in the London district and in Norfolk and Suffolk. It can only be confounded with *C. minutum*, from which the distinctions I have specified under it will distinguish it.

Erichson describes a Swiss species, *C. granarium*, Erich., as closely allied to this, principally distinguished by the second article of the palpi being much thicker.

Div. 2. Mesosternal blade appearing united to the metasternum, which appears excised at its anterior end.

C. anale, Payk., Erich.

terminatum, Marsh., Steph.

flavipes, Thunb.

apicale, Steph.

infuscatum, Steph.

Oval oblong, diminishing almost uniformly for the last three-fourths of the elytra, and terminated in a point. Head and prothorax finely punctate, brilliant black. Elytra of the same colour with a patch of testaceous red at the apex, stopping somewhat abruptly, and not covering the suture; striæ punctate; the intervals with a nearly double row of punctures on the anterior half, and a single row on the posterior.

Var. B. *C. marginellum*, Payk. Sides of prothorax, and sometimes also those of the elytra, reddish brown.

Var. C. Body above reddish brown, or testaceous red, more or less livid on the prothorax and elytra, with the apex of the latter paler. Head blackish.

Length 1 line; breadth $\frac{2}{3}$ of a line.

This species is recognized by the acute form of the hinder part of the body, and by the shape of the mesosternal plate, which is almost linear.

Occasional.

PELOSOMA, Muls.

Cercyon, Dej.

P. Lafertei, Muls.

bicolor, Dej.

Oviform, convex, and covered with small punctures above; black or nut-brown, with the anterior part of the epistome and the sides of the prothorax gradually reddish. Form of scutellum a rectilinear triangle. Elytra broadest towards the third of their length, with eleven striæ slightly punctate and deepest behind.

Length 1 line.

There is only one species of the genus, and the mesosternal blade truncate behind is a sufficient distinction. I am not aware that it has been found in Britain, but have added the description to make this sketch more complete.

The division of the *Sphæridiida*, called by Mulsant *Megasternares*, which comes next, has entirely the aspect of the *Cercyons*, and, as already mentioned, is distinguished by having its meso-

sternum broader than long and irregularly pentagonal. It contains only two species so far as yet known, each of which has been constituted by Mulsant into a separate genus.

The characters are as follows:—

Megasternum. Sides of thorax not turned in below; prosternum lozenge-shaped, longitudinally keeled.

Cryptopleurum. Sides of thorax folded in below in the form of a triangle; prosternum pentagonal, with its broadest side in front.

MEGASTERNUM, Muls.

Cercyon, Steph.

M. Boletophagum, Erich., Muls., Steph.

acutum, Steph.

immune, Kirby, Steph.

stercorarium, Marsh., Steph.

immaculatum, Kirby, Steph.

lave, Marsh., Steph.

contaminatum, Kirby, Steph.

ferrugineum, Marsh., Steph.

concinnum, Marsh., Steph.?

fuscescens, Steph.?

testaceum, Steph.?

immundum, Steph.?

castaneum, Heer?

Short, oviform, decidedly convex, shining brownish black above. Head and prothorax punctate. Elytra diminishing to the apex, with ten slight rows of punctures; intervals more finely punctate than the thorax.

Length $\frac{1}{2}$ to 1 line; breadth $\frac{1}{3}$ to $\frac{2}{3}$ of a line.

The shape of the mesosternal plate and prosternum at once easily distinguish this from all the other species of *Cercyon*; but its body above is also recognizable by a glassy semitransparent lustre which no other species has. It is exceedingly variable in size and colour, and in depth of striæ and punctuation. Sometimes it is a full line in length, occasionally not much more than half a line. It is generally dark chestnut-coloured, but sometimes quite black; sometimes the striæ are well-defined, at others scarcely perceptible, but the form of its mesosternal plate, its glassy lustre, and a peculiarity in the puncturing of the striæ will always distinguish it. The punctures in the striæ are not as if they had been impressed vertically, as is usually the case, but as if a needle had been held slanting forwards and a succession of nearly horizontal pokes had made the punctures.

Notwithstanding the great variety in the points to which I have alluded, there is no insect in the group more readily recog-

nized by an eye once familiar with it. Kirby and Stephens, however, never seem to have been so, as will be seen from the synonymy I have given. They seem to have been misled by every trifling variety; for instance, *C. stercorarium*, Steph., and *immaculatum*, Steph., are small black specimens, the one somewhat crumpled and the other very little marked. *Boletophagum* is a large specimen, *immune* a small one, and so on. The above synonymy I have confined to the genus *Cercyon*, but I found from Mr. Little's collection that Mr. Stephens had carried this species also into other genera, as it formed his representative for *Phalacrus pulchellus*, Steph., and *Phalacrus geminus*, Steph. This, however, was no doubt merely by mistake, at least as far as regards the latter, which is a good species, bearing a certain resemblance to *Megasternum Boletophagum*.

The species is very common.

CRYPTOPLEURUM, Muls.

Cercyon, Steph.

- C. atomarium*, Fab., Steph.
crenatum, Panz., Steph.
minutum, Payk. (not Steph.).
merdarium, Steph.
 var. *sordidum*, Marsh., Steph.

Shortly oval, broadest in the anterior part. Head and prothorax obscure black, densely covered with small punctures; the prothorax angularly folded in below. Elytra black, gradually livid red towards the extremity, with eleven deep crenulated striæ, the seventh almost confounded with the eighth, which is broader. Intervals subconvex punctate, and furnished with hairs.

Var. B. Elytra almost entirely testaceous red, paler towards the extremity; prothorax sometimes testaceous red on the sides.

Length $\frac{2}{3}$ to 1 line.

The shape of the mesosternum and prosternum at once distinguishes this species when seen from below; when seen from above it will be known by the coarse appearance of the upper sides and its deeply crenate striæ.

Common.

The above species of *Cercyon*, *Pelosoma*, *Megasternum*, and *Cryptopleurum*, include the whole of the British species of the old genus *Cercyon* which can be recognized from their descriptions. They amount to 18 in number, and I have little doubt that the whole of Stephens's 58 species will ultimately be found to come under one or other of them; indeed, I think I have above

determined the whole of them, with the exception of *C. Calthæ*, *xanthocephalum*, *erythropus*, *obscurum* and *nigriceps*. Heer has a species, *C. pulchellum*, found in Switzerland, which, from his insufficient description, I have been unable to identify. With the above exceptions I think I have noticed the whole of the European species hitherto known.

IX.—*Characters of new Land Shells, collected by EDGAR L. LAYARD, Esq., in Ceylon.* By W. H. BENSON, Esq.

1. *Streptaxis Layardiana*, nobis.

Testa arcuato-rimata, depresso-ovata, abbreviata, lata, leviter striata, albido-cornea; spira subelevata, apice planulato, excentrico; sutura crenulata: anfractibus 5, convexiusculis, ultimo ad latus deviante, basi convexiuscula, lævi; apertura straminea, subtriangulari uniplicata, marginibus callo lamellam intrantem validam emittente junctis, dextro expanso reflexiusculo, antrorsum arcuato, superne profunde sinuato, columellari et basali reflexis, umbilico intus rugoso-striato.

Diam. major $10\frac{1}{2}$, minor 8, alt. 4 mill.

Hab. inter lapides ad verticem rupis Mehintali Insulæ Ceylon.

In one or two specimens the callus near the upper margin is inclined to form an obtuse tooth at the side of the sinus, which is much deeper than in *H. Perrotetiana*, Petit, from the Nilgherries.

A graphic account of the discovery is contained in Mr. Layard's Journal in page 235, vol. xi. of the 'Annals.' This and the following curious species, of a singular genus, capriciously distributed through the tropical regions of the globe, are the first which have been found in Ceylon. The head-quarters of the genus are in South America and Western Africa. The remaining species, of which the locality is known, are solitary in the Nilgherry Hills of South India, at Tavoy on the Tenasserim coast of the Bay of Bengal, in Cochin China, and in the Seychelles and Rodriguez, islands of the Southern Indian Ocean.

M. Petit de la Saussaye objects (Journ. de Conchyl. 1851, p. 369) to the reception of *Streptaxis* as a genus, considering it to be inadmissible in a zoological point of view; and he adduces as an argument for rejection the circumstance of its gradual change into *Helix*, through species which belong to the group, although deficient in the principal character of distortion. The same argument might be used against the reception of most other genera. *Bulimus* and *Achatina* have as little title to separation as this genus and *Helix*; and *Streptaxis* has equal claims